

Houghton-b. Spring.
February 9th 1897.

Dear Sir,

I have much pleasure in enclosing
a copy of my Annual Health Report for the
Northern Division of the Rural District of
Houghton-b. Spring for the year ending December
1896, which was adopted by that Authority at
the meeting held on February 8th 1897.

I remain, Dear Sir,
Yours faithfully,

J. J. Park

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18.2 and 47.6 respectively for the previous year.

The number of deaths under one year per 1,000 registered births is 171.

The following table gives the rates of mortality for the last four years:-

Year.	Death-rate per 1,000 per annum.	Infant mortality
1893	22.95	50.8
1894	16.9	50.6
1895	18.2	47.6
1896	18.6	60.6

The 138 deaths included under "All other diseases" and ~~not~~ not provided for in any of the forms of the Local Government Board were due to the following causes:-

Scrofulous diseases	13
Cancer	9
Dis. of the Nervous System	14
Convulsions	8
Atrophy	8
Dis. of the Digestive Organs	22
Dis. of the Urinary Organs	6
Premature birth	32
Old age	12
All other diseases	<u>14</u>
	<u>138</u>

The following table gives the death-rate from the principal zymotic diseases, including Phthisis, and acute diseases of the lungs for the last three years:-

No.	Diseases.	1894	1895	1896
1.	Small Pox.	—	—	—
2.	Scarlet Fever.	.21	—	2.7
3.	Diphtheria and Membranous Croup.	.14	—	.56
4.	Typhoid, Typhus and Continued Fever.	.58	.65	.70
5.	Measles.	1.01	—	.84
6.	Whooping Cough.	.36	.21	.42
7.	Diarrhoea & Dysentery	.21	.93	.35
8.	Phthisis.	1.3	.3	1.2
9.	Acute diseases of the Lungs.	2.9	2.9	3.04

Births. The births for the year number 539
288 Males.
251 Females.

which is equivalent to a birth-rate of 38.1 per
1,000 per annum and a natural increase to
the population of 275.

The subjoined table gives the number of births,
- male and female - including birth-rate, for
the last four years :-

Year.	Births	Males	Females	Rate	Increase.
1893	538	281	257	32.3	227
1894	562	291	271	40.9	329
1895	507	256	251	36.3	253
1896	539	288	251	38.1	275

New Cases of Sickness. Table "B" of the Local Government Board, as I have said gives the population, births, and the New Cases of Sickness coming to the knowledge of the Medical Officer of Health, during the past year.

I am unable, however, to apportion the births to the various townships as the Registrar does not furnish me with the necessary information; nor am I able to estimate the population of the different Parishes as required by the Local Government Board and to give the death-rate appropriate to each. The deaths are, of course, properly localised in the returns of the Registrar, not so the births, however, the number occurring in the whole district is simply given without reference to the parishes in which they occur.

Infectious Disease Notification Act. The Act has been in force in this division of the Union since January, 1890.

On receiving the Notification Forms it is my invariable practice to visit and inspect the premises occupied by the patient with as little delay as possible and to give such instructions as to isolation and disinfection as the nature of the case may require.

To those, however, who are familiar with the district and the fact that we are a mining and a child-bearing population, it must be quite obvious that in the vast majority of cases, home isolation is quite impossible, as the resources of the family are too often severely taxed as it is, in order to provide the necessary sleeping accommodation with a proper regard for the separation of the sexes.

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Your inspection must be made
immediately on the morning of the
morning with whatever dispatch he is able to give.
Disinfectants. The use of disinfectants is of great
importance and your inspection should be
thoroughly, systematically and their use.

Disinfecting apparatus. The house is provided with
disinfecting apparatus which are in use in
various, occasional cases. In cases of isolation
evidence from the medical attendance is that of
contaminated patients have been frequently
disinfectant. The house is in fact a
inconvenience to the medical attendance and
may also, and everything is done to prevent
Still there are those who object to the
ground that they would be prejudicial in the
eyes of their neighbors ^{and} looked upon as
having committed some serious offence.
In some cases where the bed and bedding have
been so saturated with the excreta of the
patient as to render disinfecting of questionable
utility, it is our practice to decontaminate
and replace them at the entrance of the house.
Such a course was pursued in a case in
North, Burnside in January last.

Infected houses. These are frequently furnished
and cleaned at the expense of the hospital.
Hospital accommodation. Our hospital is
built of corrugated iron, and is in fact
In addition to the accommodation block, we
have three wards, each of which is provided with
four beds.

Only two cases of typhoid fever have been
treated in the hospital during the past year.

The patients made a good recovery and expressed themselves well satisfied with the treatment and attendance they received. The small proportion of cases seeking hospital relief to the number affected can only be explained upon the ground that many of the cases were very young and would not leave their homes, and the natural aversion of the inhabitants to allow their sick to be nursed by others than themselves.

Despite the fact that all the patients that have been treated in the hospital have spoken of the institution in ^{the} highest terms, the fact remains that among the uninitiated and uninformed, a fever hospital is looked upon, as an institution whose aid you cannot accept without in some indefinable way being cast with your neighbours.

Our ordinary hospitals were regarded much in the same light some thirty years ago, so that in the course of time the one, no doubt will become as popular as the other provided the rules with regard to visiting the sick in hospital be a little relaxed.

Infectious cases. The subjoined table gives all the cases that have been notified under the Infectious Disease Notification Act during the year:-

Scarlet Fever	115
Typhoid Fever	52
Diphtheria	8
Erysipelas	9
Croup	5
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1896.	Typhoid Fever		Scarlatina		Diphtheria		Erysipelas		Erysipelas	
	5 Years		5 Years		5 Years		5 Years		5 Years	
	Over	Under	Over	Under	Over	Under	Over	Under	Over	Under
January	3	.	3	.	.	.	3	.	.	.
February	5	2	9	9	.	.	1	.	.	2
March	2	.	9	12	.	.	1	.	.	.
April	1	.	14	16	.	.	2	.	.	.
May	.	.	15	11	.	.	1	.	.	.
June	.	.	2	4	.	.	.	.	.	.
July	2	.	2	.	2	1	.	.	.	1
August	5	.	.	.	.	.	1	.	.	1
September	11	4	1	.	.	.	.	.	.	1
October	10	.	1	1	1	1	.	.	.	.
November	5	.	1	1	1	1	.	.	.	.
December	2	.	1	.	.	1	.	.	.	.
	46	6	61	54	4	4	9	.	.	5
	52		115		8		9		5	
	189									

During the year 1895 one hundred and forty-four cases were reported, viz:-

Typhoid Fever	90
Scarlet Fever	32
Erysipelas	15
Diphtheria	7
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Although we have had more infectious sickness during the past year than in 1895, this is not surprising, considering the length of time during which the epidemic of Scarlet Fever continued. The increase so will be seen in

condition and the ready susceptibility to the disease of those recovering from Scarlet Fever and Measles - both of which we have had in epidemic form - owing to the relaxed condition of the throat which usually accompanies such cases.

Three of the cases took place in one family and two in another. The houses were below the ground level and showed evidence of dampness by the staining of the inner walls and the bulging of the wall-paper.

In connection with the two cases the yard drain had been broken into apparently with the view of carrying off the surface water which collected after heavy rains and was therefore acting as a ventilator to the sewer.

Exposures. In two of the cases the houses were badly kept while in three the ashpits were offensive; but with these exceptions nothing of an objectionable character could be found.

Typhoid Fever. During the early months of the year only a few cases of Typhoid fever occurred and it was not until September that anything like an outbreak of the disease took place. The cases were distributed pretty generally over the district so that there was no evidence of anything like a common source of infection. The tendency to stick to a particular place or street is so essentially a feature of the disease that it is not surprising that in Remmicide and other places fresh cases kept cropping up every now and again close to the houses of those who were either suffering from the disease or had recently

removed from it. This is one of the reasons why disinfection and disinfection of the environment should be particularly carried out. The disregard of such necessary precautions would lead to serious pollution and disastrous results of the disease.

I have given a list of the cases with marginal notes showing the sanitary defects found on thorough inspection.

The offensive street ventilators were covered over with metal plates and ventilating shafts were erected in their place. I fear, however, they are too small to ensure the proper ventilation of the sewers and in two instances they were so offensive as to justify the belief that they were responsible for two of the cases.

I am decidedly of opinion that the town manure deposited into the district close to the Margaret Hill, and which I reported to your authority in November last, was responsible for three, if not more of the Typhoid cases.

The stench, I understand, was unbearable, and I was told that one of the workmen was overcome by the vomiting which it produced. That he fell to the ground from utter exhaustion.

It is to be hoped that the Circular issued by your Authority will have the effect of minimizing such risks in future.

With regard to the other marginal remarks I do not think they require any further comment.

A feature of special interest with regard to the Typhoid cases is the excessive case mortality shown during the last quarter of the year.

This is the quarter, of course, during which the

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disease is most common. But why the mortality should be so much higher in this than in the other quarters of the year, it is difficult to say, unless it be that both the activity and virulence of the epidemic organism are at their height in this particular period. This high mortality is no mere coincidence. For on referring to my journals I find it has continued for years as the following table will show:-

1896	No. of cases	No. of deaths.
1 st Quarter	17	6
2 ^d "	21	2
3 ^d "	1	0
4 th "	53	2

1895	No. of cases	No. of deaths.
1 st Quarter	50	7
2 ^d "	17	1
3 ^d "	2	0
4 th "	11	1

The subjoined table gives all the Typhoid Fever cases during the last year:-

Herrington West.

Date	Locality.	Remarks.
Febry. 18 th	George St. New Herrington	Offensive street ventilator.
" 26 th	9 Old E. Row "	Damp house.
March 18 th	20 Travels St. "	No trace.
July 1 st	7 Catherine Terr. "	Nothing.
" 30 th	38 " — " —	— " —
Aug st 4 th	3 Freazemore Row "	— " —
" 8 th	1 Fenton Terr. "	Drain defective.
" 12 th	13 Lanton St. "	Nothing.
Sept. 11 th	19 Old W. Row "	Damp house.
" 25 th	23 Railway Terr. "	Defective yard drain.
" 29 th	53 Fenton Terr. "	Privy unventilated.
" 30 th	5 Bridge Row. "	— " —
Oct. 14 th	29 Single Row. "	Had Measles & Whooping Cough.
" 24 th	25 Fenton Terr. "	Nothing.
Nov. 21 st	14 West Row. "	Ventilating shaft.
Dec. 22 nd	26 Langley St. "	Nothing.

Pemohaw.

Janry. 7 th	Wagon Hill, Pemohaw.	Nothing defective.
Febry. 6 th	— " — " —	— " —
" 14 th	Pit Row, New Pemohaw.	— " —
" 14 th	Wood Houses, Pemohaw.	— " —
" 25 th	6 Double Row, New Pemohaw.	Very bad & damp house.
Aug. 9 th	Pemohaw Stables.	Drain defective.
" 21 st	Row Row, Shiny Row.	Offensive ventilating shaft.
Sept. 9 th	24 Barrack Row, Shiny Row.	House damp.
" 26 th	— " — " —	— " —
" 26 th	— " — " —	— " —
" 26 th	Old Pemohaw.	Ventilating shaft offensive.
" 28 th	4 Double Row, New Pemohaw.	Nothing.
Oct. 19 th	Row Row, Shiny Row.	Secondary.
Nov. 12 th	24 Barrack Row, — " —	— " —

Newbottle.

Date.	Locality.	Remarks.
Jan'y. 19 th	17 Hopper St. Dublin.	Secondary.
" 22 nd	13 Raglan Row, Philadelphia.	Nothing defective.
Feb'y. 12 th	5 Cornent St. Dublin.	Nothing.
Mar. 26 th	1 Shop Row, Philadelphia.	No trace.
April 20 th	Bedgeletch.	House damp.
Sept. 6 th	Back Lane, Newbottle.	Nothing.
" 12 th	Front St. — " —	Imported.
" 14 th	Bunker Hill.	Nothing.
" 15 th	Shop Row, Philadelphia.	Damp house.
" 24 th	21 N th Sunnyside.	Nothing.
" 24 th	23 — " —	— " —
Oct. 7 th	22 Cornent St. Dublin.	— " —
" 8 th	22 N th Sunnyside.	Smell from asphalt & spring.
" 13 th	53 Mid. — " —	Offensive town manure.
" 14 th	8 Junction Row	Street ventilator, although covered over with metal, very offensive.
" 14 th	— " —	
" 30 th	24 S th Sunnyside.	Nothing.
" 31 st	36 Buccaro.	Damp floor.
Nov. 7 th	25 N th Sunnyside.	Secondary.
" 12 th	1 Mid. — " —	Town manure.
" 16 th	33 — " —	— " —
Dec. 15 th	Gordon St. Newbottle.	House damp and in bad repairs.

Small Pox. We have again enjoyed a complete immunity from this loathsome disease as well as from Typhus fever, Relapsing fever and B. h. fever.

Croup. Five cases of this disease have been notified during the year, as against none for the previous year. Two of the cases occurred to members of the same family and two of the houses were below the ground level, and the inner walls were damp.

These are all the diseases that have been notified under the Infectious Disease Notification Act, but there are other diseases which are not included by us under the Act, and which are of equal importance as showing the kind of sickness from which we have suffered and the causes which have contributed to the mortality.

Measles. In the month of May a severe epidemic of Measles broke out in the Newbottle and Herrington districts. The disease spread with such rapidity that the schools had to be closed. By July it had declined but only to break out afresh in the month of October when the schools had once more to be closed. Advantage was taken of this to have them cleaned and disinfected. The disease in many cases assumed a malignant form and chest complications were of common occurrence.

The closing of the schools had a good effect in checking the spread of the disease and had they continued as for a fortnight longer the probability is that no second closing would have been necessary.

Measles, gentlemen, is like no other disease in this, that from the earliest moment, before the disease is even suspected, the infection is given off.

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(Thus it is that in such out-breaks our schools become a source of danger and should be closed at once.

In the presence of such out-breaks it is necessary to isolate the healthy from the sick when it is neither convenient nor possible to isolate the sick from the healthy.

As an illustration of my meaning I may mention that although there was a large number of children in the Workhouse who had not had measles, not a single child caught the infection, although the disease was in almost every family in the town. The extraordinary immunity thus enjoyed is due to the fact that during the progress of an epidemic the children are kept at home and all intercourse with the outside is cut off. This might be looked upon as an evasion of the Education Act, but, surely, gentlemen, it is better to set them than to compel children to attend school when there is almost an absolute certainty that by so doing they will contract some infectious disease.

A single case of Measles did however, break out in the Workhouse, and in my opinion it was caused by the child in question having been given a parcel of sweets over the wall by a friend during the tract. This was the only instance where an inmate of the Workhouse secured anything from the outside during the epidemic and this was fully a month after the children had ceased to attend school.

Whooping Cough. During the first quarter of the year an epidemic of Whooping Cough prevailed in the district. The disease was of the

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ordinary type and was accompanied with the usual complications.

Diarrhoea. We have been singularly free from Diarrhoea during the year. The deaths are out of all proportion to the number of cases, and occurred to infants from 3 to 10 months old who were teething at the time and suffering from those disturbances incidental to that condition, such as convulsions and the like. No doubt we are largely indebted for the gratifying freedom from the disease to the absence of the exceptionally hot and overpowering weather which for years back has characterized the months of July and August and which in these parts is usually attended with an outbreak of Diarrhoea.

Chicken Pox. Only a few cases have come to my knowledge, all of which were of the most ordinary type and free from all constitutional disturbance.

Influenza. During the months of January and February and again in November and December we had a slight outbreak of Influenza. There was a complete absence of the sudden and severe symptoms which characterized the epidemics of previous years. A slight rise of temperature with frontal headache and suffused eyes were among the chief symptoms; the whole illness seldom lasting longer than a few days.

Rheumatic Fever. Only 2 cases of Rheumatic fever have come to my knowledge. This is the more remarkable when we recall the severe and changeable weather which prevailed during

The last quarter of the year.

Pneumonia &c. Inflammatory affections of the lungs have been very prevalent during the year and ~~the~~^{have} added largely to the mortality. As was to be expected the very young and the very old - of the entire range of life - suffered most, owing to the storm and trapping weather of the first and fourth quarter of the year.

The epidemic of Measles, too, contributed largely to the mortality from these diseases, as in the severe cases inflammatory affections of the lungs were the usual complications.

Milk. The milk, as a rule is of good quality and I have no reason to suppose that any sickness has been attributed to its use. Samples are taken by the County Council for analysis but I am not aware of any proceedings having been taken.

Meat. The meat offered for sale has been up to the standard of previous years and will compare favourably with that killed in any of the adjoining towns.

Food and Drugs Act. Proceedings under this Act are taken by the County Council.

The Infectious Disease Prevention Act and the Public Health Act Amendment Act 1890 are both adopted by your authority.

Drinking water. By a standing order of the Council an analysis of the various drinking waters is made from time to time, copies of which are appended to my report.

Upon the whole our drinking water is good and amply sufficient for our requirements.

Although the Newbottle and Penrhaw water (Houghton water) is subject to intermittent pollution I am not in a position to condemn it on account of any injurious effects it has had on the health of the community; while I consider the purity of the other supplies to be above suspicion. In common with other districts our water supply is liable to be interrupted by accident to the main or service pipes and it was from such an accident that the Newbottle and Penrhaw, district and Bank Head were deprived of their normal supply for a week in July; but the needs of the people were amply provided for by water-carts which perambulated the affected districts while the necessary repairs were being carried out.

The Draw Well, which was both dangerous and polluted and which provided the only available water for the four or five families at Black Bay has been abandoned and the people are now supplied with water of proper purity.

The well at Low Lambton has been boarded over and otherwise protected from all possible pollution.

Warden Law. Owing to the stoppage of the Rainton Pits the people at Warden Law were likely to lose their water supply, but Mr George Gregson has kindly undertaken to erect a pump to be worked by horse-power which will meet the difficulty and amply provide for the local requirements.

A new water supply has been provided for West and Middle Hurrington so that with the exception of two or three houses near to Pilksworth which are now the subject of correspondence

Mr Gregson
has only
arranged
to supply
himself &
tenants.

between the Council and the Sunderland authority, the whole district may now be said to be plentifully supplied with pure wholesome water.

New houses. Thirty-two new houses have been built and occupied during the year.

Town manure. I have already referred to this subject under Typhoid fever, so that it is unnecessary to say more than that the Council have taken steps to have all such objectionable rubbish removed within the time specified in the bye-laws.

Over-crowding. Cases of over-crowding were dealt with at Pottery Yard, Newbottle, Britannia Terrace, Bank Head and Waggow Hill near Fincham Staiths.

Dairies and cowsheds. These are regularly inspected, and as a rule they are kept in a clean and satisfactory condition. At the Farm near Silksworth, Colling, the owners were served with a notice to repair the house and byres which were old and dilapidated. A new farm-house has since been built and the cowsheds overhauled and put into proper repair.

Slaughter houses. These are periodically inspected and as a rule they are kept clean and orderly and the offal and other refuse is at once removed from the premises.

Enforcing of the Working Classes Act. In the case of seven houses at Philadelphia, owned by the Ecclesiastical Commissioners, proceedings were taken under the Act and the houses closed by order of the Justices.

Scavenging. Although occasional complaints have reached me with regard to the irregular and imperfect way in which some of the privy-vaults are scavenged, the work upon the whole has been fairly well done and with proper supervision I do not see why everything should not work well. It is let by contract and the conditions embodied in the agreements are of such a character that the work cannot be neglected without exposing the contractor to serious penalties which it is the determination of your Council to impose in all cases of wilful neglect.

The following work has been carried out through the action of your Authority:—

Dwelling houses at Old Penrhaw. New privy-ashpits have been built for the houses owned by Mr J. Millican.

At Shirey Row the same gentleman has also provided water-closets for five tenants behind the post-office.

At Mill Pit new conveniences have been built for the houses owned by Messrs Hodgson and Robson, and the Travellers Rest Inn which was in a very insanitary condition has been raised in front and provided with a new roof and put into satisfactory repair.

Old Penrhaw. Six houses belonging to Aitlis, Foster and Winship have been repaired and provided with new privy-ashpits.

The View, Newbottle. New Cement floors have been laid for the houses owned by Grainger, who has also provided additional privy accommodation and carried out other repairs.

A block of new privy ashpits and coal-houses have been erected for four houses situate in Black Lane, owned by Miss A. Taylor.

Repairs to Streets. In consequence of the very bad condition of Garden Street, Newbottle, notices were served by order of your authority upon the owners to kerb, channel and repair the existing road. By mutual agreement the work was let by contract and has been most satisfactorily carried out so that the road will soon be taken over by the Council.

High Dublin. Several of the owners have done repairs, while others have done nothing, thus causing the roads to be more uneven than before. In some places they are dangerous and unless the owners can agree to have the work uniformly and properly carried out, steps should be taken to compel them by adopting Section 150 of the Public Health Act 1875.

Drainage for the houses at Railway Cottages, Prince House Station, Dublin cottages, Brick Yard, Black Boy and Morton Engine—in all some 60 in number:—

The Council are negotiating with the North Eastern Railway Company to carry out a scheme for the drainage of these houses. It will be connected with the main sewer at the Burn crossing near the Sedgeclash Farm and will have the effect of abating the pollution of the burn complained of by the County Council.

The vast majority of the miners' houses are the property of the Colliery Owners who employ a permanent staff of workmen for the purpose of executing the necessary repairs. In addition to the ordinary work done in this way a large amount of extra improvement and alterations have been effected during the past year, as will be shown by the subjoined statement which has been kindly prepared for me by the representative of the Owners.

In the Parish of Newbottle.

1. At Old Success eight new conveniences have been built; One large house converted into two; one additional pantry made and four cement floors laid to prevent dampness.
2. At Success Cottages a new road and footpath have been made with the necessary kerbing and channelling. Drains and sinks were provided for twenty houses and two cement floors were laid to obviate dampness.
3. At Bell's Cottages two new conveniences and one new ceiling were erected.
4. At Pig Row one new room was added to a house.
5. At Paddock Stile schools the drains were taken up and relaid.
6. At Sunnyside in the North Row twelve yard doors have been lowered and twelve yard floors repaired so as to bring them up to the level of the road.

In the South Row four new windows were made and six new cement floors laid and also a large portion of the partition walls were rebuilt and six yard floors repaired.

In the Middle Row eleven cement floors were laid

houses bordered was re-made, kerbed and channelled.

2. In George Street (East and West) six cement floors were laid, one wash-house was built and general repairs were made to all of the houses in the front St.

3. At Fenton Terrace the road and footpath were re-made, kerbed and channelled; one cement floor was made and re-plastering done on account of dampness.

4. In Lenton Street one cement floor was laid and a large number of chimney pots re-fixed.

5. In Old East Row new kitchen ceilings were made in two houses; several other houses were re-plastered with cement inside, and eight pantry floors were laid with cement.

6. At Harrington Pit house, two new conveniences and two coal houses were erected.

7. In Catherine Terrace footpaths were made, levelled and channelled for forty-four houses and inside of the houses re-plastering with cement was done.

8. In Travers Street all the yard floors were re-laid; two new privies were built; one new pantry was erected and one new cement floor made.

9. In Lane Street one large house was made into two; new stairs were erected also floors and partitions and new conveniences furnished. In the same row two cement floors were laid; all old conveniences were thoroughly repaired and one new pantry built.

In the Penrhaw District

1. At Wood Houses the road from the main road to the Wood Houses was re-made.

2. At Old Penrhaw the house adjoining the ~~Penrhaw~~ Inn was taken down and re-built, new drains being laid, connecting them with the main sewer.
3. At Bunker Hill the drains at the houses, occupied by Messrs Young and Kirkup were taken up, and relaid and provided with proper disconnecting chambers and traps and proper ventilating pipes which were carried up to the top of each house. These repairs were also executed in connection with all the drains at Bunker Hill Stables and at the house occupied by Mr Davison, and the ventilation thoroughly ascertained by means of the pump.
4. At Penrhaw Stable one stone wall, and some old conveniences were pulled down; eight conveniences were rebuilt and the footpath for eight houses was re-made, kerbed and channelled while the corresponding drains were re-laid.
5. At Penrhaw Station a new drain and three new conveniences were made for Whitefield Hill houses.
6. At Penrhaw Blaith an old roof was taken off from the house near the New Bridge, and a new one erected while the kitchen was enlarged. Three sets of conveniences were made; the whole of the houses near to the Bridge were provided with new spouting and their drains connected with the main sewer. Near the Blacking Factory three new conveniences were built; new windows and drains were provided and general repairs done to ten houses.
7. At Bow Row, Shiny Row, one cement floor was made; three mangle sham stoves were erected to improve ventilation and one new ceiling and two dormer windows made.

8. At Boundary House one old house was taken down and a new one erected with four rooms and all conveniences. A room in Mrs. Merrill's house was also enlarged.
9. At Old Penobscot two houses on Penobscot Square were pulled down and rebuilt; also the house next to Lambert's farm was pulled down and a new one erected and drains properly laid. The old conveniences at the Willow Tree houses have been rebuilt.
10. At Chandler Row ~~was~~ in a house near Rago Yard the roof was altered, the walls plastered, the parlor walls painted and the kitchen floor relaid. A drain was also made for eight other houses for the purpose of carrying away the sewage water and sinks for stop water were provided for four of these houses.

I have a small map showing the street
 layout of the town, showing the location of
 the houses and the lot of the farm
 and the location of the water house.

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Death rate. I am satisfied that the population
upon which I have estimated the mortality is
considerably under stated, but even upon an
under estimated population the death rate I
think, may be looked upon as highly
satisfactory. No doubt, our antiquarians would
have been quite kind the picture given them
injurious diseases such as Typhoid fever
Diphtheria &c. been less. Considering that the
district has recently been provided with a new
system of sewerage; that the houses and out
offices are built on good and safe land
furnishing a very good supply of a good
class in some part of the County; that the
leaving is let by contract, and that by the
supervision of your inspector it is fairly well
carried out and that the district is
generally supplied with water, which,
although, unfortunately, receiving some
pollution, we have not as yet been able to
prove to be specifically contaminated, it is a
matter of disappointment to us all that our
yearly sickness from these diseases should be so
great. I have been most carefully watching
for indications likely to throw light upon the
subject, but as yet, I have nothing very definite
to offer; but the pollution and the nature of the
land on which the Harrington is built and
is charged and in some places is exposed to
water, must, in view of our present knowledge
of those conditions, be considered as favouring the
propagation and spread of these diseases, be
looked upon as contributory causes.

What has become of the discarded specifically
contaminated water at New Kensington is a
subject which has often suggested itself to my
mind. Whether it is possible for it to find its way
into any of our other water supplies is a question
I have never been able to determine, but the
extraordinary way in which outbreaks of
Typhoid fever occurred from time to time before
the great epidemic in which over a thousand
persons were affected, completely baffled our
efforts to discover anything like a solution of the
difficulty until the fault in the rock at
Kensington Hill revealed the fact that there was
communication between the surface and the
water source. The runner in the staple
containing ^{the} pollution varied in volume. In
wet weather the volume increased while in
dry-droughty weather it ceased altogether; so
that to my mind we have here a perfectly
intelligible explanation of those minor
outbreaks which preceded the great epidemic.
We are aware, gentlemen, that the Newbottle
and Fenshaw water is subject to some such
intermittent pollution, and in my opinion
it is not improbable that the sudden and dense
outbreaks from which we occasionally suffer now
may be due to similar causes modified in
their effects by the limited amount of specific
pollution. True, I have said that I am not aware
that our water has had any bad effects upon the
public health, but it is very difficult - nay
almost impossible, to produce satisfactory
evidence implicating the drinking water with
an outbreak of fever, especially when there

outbreak involves only a small number of persons at a time. It is only when the whole volume of water is significantly polluted, and when the disease follows with mathematical precision the course of the water supply, as in the great epidemics, that we at once turn our attention in that direction. I have mentioned these facts, gentlemen, in order to show that I am exercising the closest supervision over everything of a suspicious or likely character, and to my mind this is a subject which is of the deepest importance not only to your Authority but to our authority in the County, as it is impossible to say if and to what extent that enormous volume of discarded water is finding its way into the drinking waters of the County. My remarks upon the water question in the earlier part of my report were based upon former Chemical and Microscopical reports which always represented the New Arrington water to be pure and wholesome and above suspicion; but the reports received the other day, copies of which are appended to my report, condemn this as well as the other waters submitted for analysis as receiving surface pollution.

I have the honor to be,
M^r Chairman & Gentlemen,
Your obedient servant,
J. J. Park.
Medical Officer.

Typhoid Fever cases during 1896.

Boughton Rural - Northern Division.

Date	Names	Age	Sex	Occupation
Jan. 7 th	Jane E. Maledon	8	F	
" 18 th	Eliz th Booth	20	F	Single woman.
" 22 nd	Paul. Fife	38	F	Married - -
Feb. 6 th	John Maledon	1	M	
" 10 th	E. J. B. B. B.	4	F	
" 17 th	Ralph Burtin	38	M	Miner
" 17 th	Cath. Thornley	8	F	
" 18 th	Eliz th Babner	22	F	Single woman.
" 25 th	Robt. Barker	10	M	
" 26 th	John Fletcher	8	M	
Mar. 18 th	Tho. Swainston	5	M	
" 26 th	Eliz. E. Sharp	4	F	
Apr. 20 th	Tho. Lindley	18	M	Miner
July 15 th	Alice White	26	F	Married woman.
" 30 th	Eliz th Shaw	16	F	
Aug. 4 th	Eliz th Harper	22	F	Married woman.
" 8 th	E. d. White	14	M	Miner
" 8 th	John Hearn	20	M	- - -
" 12 th	W. R. Rotteny	18	M	- - -
" 21 st	Emily Crabtree	10	F	
Sept. 4 th	Henry Moody	4	M	
" 9 th	Ada M. Carr.	3	F	
" 11 th	Jas. Robinson	26	M	Miner
" 12 th	Chas. Wankles	22	M	- - -
" 14 th	John. Davidson	12	M	
" 15 th	Robt. Crosby	4	M	
" 24 th	Wm. Bowdon	24	M	Miner
" 24 th	John. Rooby	14	M	Putty boy
" 25 th	Jas. Strong	14	M	- - -
" 26 th	W. Davidson	14	M	Miner
" 26 th	E. d. Davidson	9	F	
" 26 th	Barb. Davidson	3	F	
" 28 th	Mary J. Webb	39	F	Married woman.
" 29 th	Tho. Munn	18	M	Miner.
" 30 th	Jane Briggs	13	F	
Oct. 7 th	W. Green	4	M	
" 9 th	Ralph Wild	22	M	Miner.
" 9 th	Mary Crabtree	18	F	Single woman.
" 10 th	Jas. Simpson	30	M	Miner.
" 14 th	Fellie Matthews	6	F	
" 14 th	Harriett Garg	9	F	
" 14 th	Robt. R. Garg	4	M	
" 24 th	Mary A. Miller	4	F	
" 30 th	Mary Henderson	45	F	Married woman.
" 31 st	Harriett A. Harrison	4	F	
Nov. 4 th	Tho. Harris	22	M	Miner
" 12 th	Jas. Burnside	27	M	- - -
" 12 th	Eliz. Davidson	34	F	Married woman.
" 16 th	Chas. Whitehead	29	M	Miner
" 21 st	Chris. Maughan	6	M	
Dec. 16 th	Frank Gray	28	M	Miner
" 22 nd	Eliz. Meddell	14	F	

Males	28	Over five years of age	46
Females	24	Under	5
	52		52

Chemical Analysis Office,
Huntington.

29th January 1896.

To

D^r D. S. Park, M. D. H.

Houghton - La - Spring.

I hereby certify that I have analysed
a sample of water marked "No. 1." which
received from you on the 24th January 1896,
and that I find as follows:—

Colour & Appearance in 2 foot tube — Colourless,
Fairly clear.
Odour when heated to 100° Fahr. — Not marked

	Grains per Gallon
Chlorine, as Chlorides.	2.1700
Nitrogen as Nitrates.	.3170
Ammonia.	None
Albuminoid Ammonia.	None
Oxygen Absorption.	.0140
Injurious metals.	None
Total Solid Matter dried at 220° Fahr. }	36.4000

Microscopical examination — Bacteriostomy
Observations.

I am of opinion that the above sample is a
sample of good and wholesome drinking
water.

W. F. Keating, Esq., F. I. C.

Water examiner to the Durham County Council

County Analysts Office.
Darlington

29th January 1896.

To

Dr D. S. Park, M. C. H.

Houghton-le-Spring.

I hereby certify that I have analysed a sample of water marked "No. 2" which I received from you on the 24th January 1896, and that I find as follows:—

Colour & Appearance in 2 foot tube — Faint greenish
Clear.

Odour when heated to 100° Fahr. — Faintly earthy

	Grains per Gallon.
Chlorine as Chlorides	3.1150
Nitrogen as Nitrates	Trace
Ammonia	None
Albuminoid Ammonia	.0029
Oxygen Absorption	.0196
Injurious Metals	None
Total Solid Matter dried at 220° Fahr. }	61.6000

Microscopical examination — Satisfactory
Observations.

I am of opinion that the above sample is a sample of good and wholesome drinking water.

W. F. Keating Stock, F. I. C.

Water Examiner to the Durham County Council

County Analysts Office.

Darlington.

29th Jan'y. 1896

Dr D. S. Park, M.O.H.

Houghton-le-Spring.

I hereby certify that I have analysed a sample of water marked "No 4" which I received from you on the 24th Jan'y. 1896, and that I find as follows :-

Colour & Appearance in 2 ft. tube - Yellowish & turbid.
Odour when heated to 100° Fahr. - Faintly earthy
Grain per Gallon.

Chlorine as Chlorides.

2.6290

Nitrogen as Nitrates

None

Ammonia.

Trace

Albuminoid Ammonia.

None

Oxygen Absorption.

.0196

Injurious Metals.

None

Total Solid Matter dried at 220° Fahr. 32.2000

Microscopical Examination { Considerable deposit from 1/2 gallon.
Consists of Iron oxide associated with
which are felted masses of fungoid
mycelia. Some moving organisms.

Observations.

Apart from the suspended matter the quality of this water is excellent. But I do not consider it to be a satisfactory water for drinking purposes so long as that suspended matter is present. The action of micro-fungi of the nature of those found in this sample is obscure but they are certainly not constituents of pure water.

W. F. Keating Stock, J. I. C.

Water examiner to the Durham County Council.



County Analytical Office,
Washington

January 29th 1897

To Dr H.S. Park, Medical Officer of Health,
Bouqueton & Spring, R. D.C.

I hereby certify that I have analysed a sample
of water marked 'A' which I received from you
on the 23rd January 1897, and that I find as
follows:—

Colour & Appearance in 2 ft tube — Very faint greenish,
fairly clear.

Colour when heated to 100° Fahr. — None

Grains per Gallon.

Chlorine, as Chlorides 1.9950

Nitrogen, as Nitrates .2806

Ammonia Trace

Albuminoid Ammonia .0008

Oxygen Absorption .0140

Injurious Metals None

Total Solid Matter dried
at 220° Fahr. } 32.2000

Microscopical Examination { noticeable deposit from 1/2 gallon. Consists
of starch granules, decomposing vegetable
matter, fungoid growths, very few
moving organisms.

Observations

This sample is, in my opinion, contaminated with
unfiltered water containing matter derived from the
surface. The significance of such contamination
from a hygienic point of view depends very greatly
upon whether these surface matters have been exposed

(Boiling)
Well.

within an inhabited area. If so, they are
clearly a source of danger to the health of those
using the water.

H. B. Keeling Esq. J. L. C.

Water Examiner to the Durham County Council

January 29th 1897.

To H. H. Park, Medical Officer of Health
Moughton. S. Spring R. D. C.

(Newbold)

I hereby certify that I have analysed a
Sample of water marked "B" which I received
from you on the 23rd January 1897, and that
I find as follows:-

Colour & Appearance in 2 ft. tube. - Very faintly greenish,
fairly clear.

Odour when heated to 100° Fahr. - Faintly earthy.
Grainy & Gummy.

Chlorine as Chlorides.	0.3400
Nitrogen as Nitrates.	.0219
Ammonia	.0014
Albuminoid Ammonia	.0008
Oxygen Absorption	.0196
Injurious Metals.	None.
Total Solid Matter dried at 220° Fahr. }	63.0000

Microscopical Examination { Minute deposit from 1/2 gallon.
Consisting of decomposing vegetable matter
fungoid growths, moving organisms,
chiefly diatomaceae.

Observations.

The observations made on Sample "A" apply with
equal force in this case.

W. F. Keating Stock. F. D. C.

Water Examiner to the Durham County Council

County Analysts Office,
Darlington.

January 29th 1897.

To Dr H. Park, Medical Officer of Health,
Broughton-le-Spring R. D. C.

I hereby certify that I have analysed a
sample of water marked "C" which I received
from you on the 23rd January 1897, and that
I find as follows:-

Colour & Appearance in 2 ft. tube - faintly greenish,
not quite bright.

Odour when heated to 100° Fahr. - Very faintly earthy.
Grains per Gallon.

Chlorine as Chlorides 3.4090

Nitrogen as Nitrates . 0.215

Ammonia . . . 19

Albuminoid Ammonia . 0.023

Oxygen Absorption . 0.24

Injurious Metals . None

Total Solid Matter dried
at 220° Fahr. } 18.5000

Microscopical Examination { Small deposit from 1/2 gallon
consisting of starch granules, decomposing
vegetable matter. Few moving organisms
including diatoms.

Observations.

The observations made on Samples "A" and "B"
apply in the above case also.

W. F. Keating, Clerk, F. R. C.

Water Examiner to the Durham County Council

(Rising
Main.)



SUMMARY of work done in the Inspector of Nuisances' Department during the year 1896, in the *North-west Division of the* District of *Houghton-le-Spang (Rural)*

I. PUBLIC HEALTH ACTS.				Number of Informal written Notices by Inspector.	Number of Formal notices by order of Authority.	Number of Nuisances abated after Notice.	General Remarks.
Dwelling-houses and Schools.	{	Foul Conditions	..	26	13	30	
		Structural Defects	..	31	12	26	
		Overcrowding	..	5	1	5	
		Unfit for Habitation	..	6	1	6	
Lodging-houses	...	...	...	—	—	—	
Dairies and Milkshops	...	...	...	2	—	2	
Cowsheds	...	...	...	3	—	3	
Bakehouses	...	...	...	—	—	—	
Slaughter-houses	...	...	...	—	—	—	
Ashpits and Privies	...	...	...	26	13	34	
Deposits of Refuse and Manure...	...	...	...	9	2	9	
Water-closets	...	...	...	5	—	5	
Defective Yard Paving	...	...	...	13	3	14	
House Drainage	{	Defective Traps..	..	5	—	5	
		No Disconnection from Sewers ..	..	3	—	3	
		Other Faults	..	17	4	20	
Water Supply	...	...	...	4	3	4	
Pigsties	...	...	...	3	—	3	
Animals Improperly Kept	...	...	...	7	3	9	
Offensive Trades...	...	...	..	—	—	—	
Smoke Nuisances	...	...	...	—	—	—	
Other Nuisances	...	...	...	7	4	11	
TOTALS				172	59	199	

II. FOODS AND DRUGS.				Number.	Remarks.
Seizures of Unwholesome Food... ..				—	
Convictions for exposing or selling unwholesome Food... ..				—	
Samples of Food and Drugs taken for Analysis				—	
,, found Adulterated				—	
,, of Water taken for Analysis				4	Satisfactory
,, condemned as unfit for use				—	

III. PRECAUTIONS AGAINST INFECTIOUS DISEASE.					
Lots of Infectious bedding stoved or destroyed				6	by Arthur Disinfecting Apparatus
Houses disinfected after Infectious Disease ..				21	
Schools do. do. ..				—	
Prosecutions for exposure of infected persons or things				—	
Convictions for do. do. do. ..				—	

Jm Morley
Inspector of Nuisances.

To
Date *23rd January* 189*7*.
THE COUNTY MEDICAL OFFICER OF HEALTH, DURHAM.

TABLE OF DEATHS during the Year 1896, in the Northern Division - Houghton & Spring - Rural District, classified according to DISEASES, AGES, and LOCALITIES.

LOCALITIES adopted for the purpose of these Statistics; public houses being shown as separate localities. (See note 4 on back of sheet.) Deaths for Population and Births are in Table B.) (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																						
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 65. (g)	65 and upwards. (h)	(i)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
									Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued	Relapsing	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia and Pleurisy.	Heart Disease.	*	Injuries.	All Other Diseases.	TOTAL.	
ington Grange	4	1	.	.	.	2	1	Under 5 upwds.																		3				1	3
ington West	60	19	15	1	2	15	8	Under 5 upwds.						2	1				1	2	1	2			1	12	2		1	14	34
ington Grange	5	3	.	1	.	1	.	Under 5 upwds.																	1	3				2	3
ington	120	41	39	6	6	9	19	Under 5 upwds.		2	2	5		1						8	1	1		1	16	3	3	3	1	42	80
ington	2	.	1	.	.	.	1	Under 5 upwds.																						1	1
ington	64	25	13	3	2	13	8	Under 5 upwds.		1				1						3					6				27	38	
ington	6	3	.	.	1	1	1	Under 5 upwds.														2		1	1				2	14	26
ington	=	.	.	.	.	.	.	Under 5 upwds.																						=	=
TOTALS	261	92	68	11	11	41	38	Under 5 upwds.		3	2	5		4				1	1	10	6	5		2	35	9		1	87	160	
The subjoined numbers have also to be taken into account in judging of the above records of mortality. See Note 5 on back.																															
occurring outside the district persons belonging thereto.	2					2		Under 5 upwds.																				1	1	2	
occurring within the district persons not belonging thereto.								Under 5 upwds.																							

The subjoined numbers have also to be taken into account in judging of the above records of mortality. See Note 5 on back.

occurring outside the district persons belonging thereto.	2							Under 5 upwds.																							
occurring within the district persons not belonging thereto.								Under 5 upwds.																				1	1		2

* The heading of column 19 is left blank for the insertion of Influenza, or any other disease which it may be thought desirable to record.

NOTES ON TABLES A AND B.

- NOTE 1. *Medical Officers of Health of "Combined Districts" must make a separate Return for the District of each District Council.*
2. *Medical Officers of Health acting for a portion only of the District of a District Council should write, in the heading of the Table, the designation of the Division for which they act.*
3. *The words "Urban," "Rural," or "Metropolitan" must be inserted in the appropriate space in the heading, according as the District is Urban or Rural, or is within the Metropolitan Area.*
4. *The "Localities" adopted for the purpose of these statistics should be areas of known population; such as parishes, groups of parishes, townships or wards.*

As stated at the head of the first column in each Table, *Public Institutions* should be regarded as separate localities, and the deaths in them should be separately recorded. Workhouses, Hospitals, Infirmarys, Asylums, and other establishments into which numbers of people, and especially of sick people, are received are Public Institutions for the purpose of these statistics.

5. *The deaths which have to be classified in this Table (A), and summed up in the horizontal line of "Totals," are the whole of those registered as having actually occurred in the several localities comprised within the Division or District. But the registered number of deaths frequently requires correction before it can give an exact view of the mortality of a Division or District; and the two lowest horizontal lines are provided for the purpose of enabling Medical Officers of Health to indicate, to the best of their ability, what the extent of such corrections should be. Details concerning the corrective figures, e.g., the institutions that have been considered, or the particular localities to which corrections apply, may appear in the text of the report or in supplementary tables.*

Area and Population of the District or Division to which this Return relates.			
Area in Acres		8.399	
Population (1891)		13.109	
" (Estimated to middle of 1896)		14.140	
Death Rates.	General	18.6	per 1,000 Population, estimated to middle of 1896.
	Infant (under one year of age)	171	

In recording the facts under the various headings of Tables A and B, attention has been given to the notes endorsed on the Tables.

J. J. Park. Medical Officer of Health.

(Date) July 8., 1897.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1896, in the Northern Division - Houghton & Spring - Rural District; classified according to DISEASES, AGES and LOCALITIES.

LOCALITIES adopted use of these Statistics; institutions being shown localities. (2 on back of sheet.)	POPULATION AT ALL AGES.			Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.												
	Census 1891.	Estimated to middle of 1896.				1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
						FEVERS.									Cholera.	Erysipelas.															
						Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued	Relapsing	Puerperal																	
(a.)	(b.)	(c.)	(d.)	(e.)																											
Stonington	206			Under 5 5 upwds.		1																									
Stonington West	3,426			Under 5 5 upwds.		17	1			2																					
Stonington East	209			Under 5 5 upwds.																											
Stonington (86.)	5,552			Under 5 5 upwds.		16	3	5		2	20																				
Stonington	287			Under 5 5 upwds.																											
Stonington	2,918			Under 5 5 upwds.		19				2																					
Stonington	426			Under 5 5 upwds.																											
Stonington	85			Under 5 5 upwds.		1																									
TOTALS	13,109	14,140	539	Under 5 5 upwds.		54	4	5		6	46																				

State here whether "Notification of Infectious Disease" is compulsory in the District Yes. Since when? 1890. Besides the above-mentioned Diseases, insert in the columns with headings the names of any that are notifiable in the District, and fill the columns accordingly. State here the name of the Isolation Hospital used by the sick of the District. Mark (H) the Locality in which hospital is situated; and if not within the District, state where it is situated. Northam Fever Hospital

NOTES ON TABLE **B.**

(See also Notes on back of Table A.)

NOTE 1. The present *Table B.* is concerned with population, births, and sickness (not with mortality) in the district or division to which the Table relates.

2. As stated in the heading of Col. (a), *Public Institutions* should be regarded as separate localities, and the new cases of sickness in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received, are Public Institutions for the purpose of these statistics.

3. *Comments on any unequal incidence of notifiable disease upon the several localities, and considerations as to the local incidence of consumption and other prevalent diseases, should be made in the text of the Report.*